

NOTE ON LYMNAEA DESIDIOSA SAY.

BY FRANK COLLINS BAKER.

An examination of Say's specimens of *L. desidiosa* in the Academy of Natural Sciences of Philadelphia reveals the fact that all subsequent naturalists have misunderstood this species and have given the name to a species belonging to a different group of Lymnaeas. The true *desidiosa* is a member of the *palustris* group, as shown by Say's specimens and by a close study of Say's descriptions. The two specimens in the Philadelphia Academy may be described as follows:

Shell oblong-ovate, rather solid, color pale horn; surface dull, lines of growth crowded, conspicuous, crossed by impressed spiral lines; whorls $5\frac{1}{2}$, convex; the body whorl is quite convex; spire acutely conic, about as long as the aperture; sutures well impressed; apex of $1\frac{1}{2}$ whorls, brownish horn; aperture long ovate; outer lip thin, with an internal rib or varix; inner lip reflected over and appressed to the parietal wall, leaving a small umbilical chink; columelar axis with a distinct plait.

Length 15.00, breadth 7.50, aperture length 8.00, breadth 3.00 mill.

Length 14.25, breadth 7.50, aperture length 7.75, breadth 3.50 mill.

The specimens bear the following label in the original handwriting:

Lymnaea desidiosa Say, Journ. Acad., v. 2, p. 169. T. Say, Penn. ? (No. 58731).

The figure in Binney (fig. 68) is said to be from an authentic specimen in the Philadelphia Academy, but no such specimen is now in existence, nor are the specimens mentioned from Cayuga Lake to be found. In the absence of any other authentic material Say's specimens must be taken as typical of *desidiosa*. A close analysis of Say's description would seem to indicate that he did not have the shell before him which has so long borne the name of *desidiosa*. He says "It is closely allied to *elodes*, but the whorls are more convex, one less in number, and the two terminal ones are proportionately smaller."¹ This statement is repeated in the American Conchology. This statement of its relation to *elodes* would

¹ Journ. Acad. Nat. Sci., ii, p. 169.

scarcely have been made by Say, who possessed a peculiarly discriminating sense of minute differences between shells, if he had been describing the shell now known as *desidiosa*. The size of the Philadelphia specimens (15 mill.) also corresponds pretty well with the size given by Say ($\frac{7}{16}$ of an inch = about 17 mill.). The most convincing fact to the writer is the presence of a specimen of "*desidiosa*" of authors in the Philadelphia Academy marked "*Lymnaea* , Canandaigua Lake, T. Say" (No. 58732), showing that the form usually called *desidiosa* is not the one so called by Say. Prof. Edward S. Morse, who made the drawings for Binney's work, has been unable to give any information concerning the specimen figured by Binney.

Last summer the writer made three trips to Cayuga Lake, one to the south end at Ithaca and two to the north end at the town of Cayuga, with the hope of securing specimens which would correspond with Say's specimens. Three whole days were spent in exploring several miles of the shore and the small creeks, and while specimens of both *palustris* and *obrussa* were obtained, not a single specimen was found which agreed with Say's *desidiosa*. The *palustris* were the large, thin-shelled form and the *obrussa* were rather small specimens, not at all like the description or specimens of *desidiosa*. As Say gave no particular part of Cayuga Lake as the identical spot in which the types were collected, it renders the task of finding locotypes well nigh impossible, since the lake is 68 miles in length.

Recently, Miss Mary Walker, of Buffalo, New York, sent the writer a number of shells from Young's Quarry, Williamsville, New York, which are identical with Say's specimens of *desidiosa*, having the same number of whorls and almost the same measurements. These are given for comparison:

Say's specimens:

Length 15.00, breadth 7.50, aperture length 8.00, breadth 3.00 mill.

Length 14.25, breadth 7.50, aperture length 7.75, breadth 3.50 mill.

Miss Walker's specimens:

Length 15.00, breadth 8.00, aperture length 8.00, breadth 4.00 mill.

Length 14.00, breadth 8.00, aperture length 8.00, breadth 3.50 mill.

Say's figure in the American Conchology (plate 55, fig. 3) corresponds with the specimens from Williamsville, all having the peculiar obese body whorl. Say himself identifies *desidiosa* from western New York in Long's expedition, II, p. 263, where he says, "*Lymneus desidiosus* nob. Falls of Niagara."

The history of *desidiosa* in the American monographs is interesting and clearly indicates that since Say's time little attention has been given to closely analyzing this species. In all of his references Say distinctly indicates a shell of the *palustris* type.

Haldeman describes and figures the form now distinguished as *obrussa* and not the true *desidiosa* (compare his plate with Say's figure 3). Many of Haldeman's figures are abnormal and do not represent *obrussa* as it is usually developed. Tryon, in his continuation of Haldeman's work, (p. 104) states that many of the figures on this plate are not *desidiosa* but a form of *columella* (*macrostoma*). In this statement Tryon is wrong and could scarcely have seen Haldeman's specimens, for a recent examination proved them all to be referable to *obrussa* (*desidiosa* of authors) although as stated above several of the specimens are abnormal. The writer has collected many specimens similar to those figured on Haldeman's plate.

Binney, in his Land and Fresh-water Shells of North America, Part II, makes *obrussa* a synonym of *desidiosa*, thus showing that he considered the latter the small, smooth form and not the true *desidiosa* of Say and his figure 68 is questionable for the reason and is probably of a long-spined *obrussa*. In Baker's Mollusca of the Chicago Area *obrussa* is described and figured as *desidiosa*.

Recently Dr. W. H. Dall, in his Alaska Mollusks (p. 73, fig. 51) figures Say's *obrussa* under *desidiosa*, but also refers in his synonymy to Binney's figure 68. The European monographs have given figures referable to *obrussa* rather than to *desidiosa*.

Amidst the uncertainties caused by the absence of Say's types we must look for a shell which is closely allied to *elodes*, but is smaller, with more convex whorls, and possesses 5 instead of 6 full whorls. Such a shell is found in the autotypes of *desidiosa* in the Philadelphia Academy, and this type of shell occurs in several localities in the eastern part of the United States, and is easily separable from any other known species or variety. The spire varies considerably, being short, or long, or even scalariform. There are from 2 to 5 rest varices on the whorls.

Desidiosa, then, differs from *obrussa* (*desidiosa* of authors) in its generally larger and more solid shell, longer and more turreted spire, more pronounced and heavier sculpture and more convex whorls, with deeper sutures; in having an internal rib inside the outer lip and in the presence of a fold on the columella. Compared with *palustris*, *desidiosa* is smaller, usually more solid and with a more obese body whorl and a more dilated aperture. The spire, too, is more sharply conic and the whorls are more tightly coiled, producing a deeper suture. The inner lip is also more expanded, producing a heavier callus. The shells called *elodes* by Say are larger, more flat-sided, with a longer spire, and the whorls are not so rounded and are more oblique.

If we accept the evidence afforded by Say's specimens (and there seems to the writer to be no other course), then the shells usually called *desidiosa* must bear the name of *obrussa*, which is the first available name, and *desidiosa* must be used for the shells so-called by Say.

EXPLANATION OF PLATE III.¹

Fig. 1. *Lymnæa desidiosa* Say, Williamsville, Erie Co., N. Y. (from collection of Miss Mary Walker, Buffalo, N. Y.)

Fig. 2. Say's figures of *Lymnæa desidiosa* in Amer. Conch., pl. 55, fig. 3.

NORTHERN OPISTHOBRANCHIATA.

BY F. M. MACFARLAND.

NORTHERN AND ARCTIC INVERTEBRATES IN THE COLLECTION OF THE SWEDISH STATE MUSEUM (RIKSMUSEUM). III. OPISTHOBRANCHIA AND PTEROPODA. By Nils Odhner (Kungl. Svenska Vetenskaps Akademiens Handlingar, Band 41, No. 4, pp. 1-118, pl. I-III, 1907).

The above work will be welcomed by American zoölogists as a valuable contribution to our knowledge not only of the Opisthobranch fauna of Scandinavian waters, but also as of great convenience in studying the quite similar fauna of our own North Atlantic shores. The classic *Index Molluscorum Scandinaviæ* of Lovén, 1846, and the *Mollusca Regionis Norvegiæ* of Sars, 1878, have been for

¹ Plate III will appear in the July number.